Phlegmariurus varius

COMMON NAMES
clubmoss

BIOSTATUS
Native

CURRENT CONSERVATION STATUS
2023 | Not Evaluated | Qualifiers: SO
Jump to previous conservation statuses

CATEGORY
Vascular

STRUCTURAL CLASS
Lycophytes (clubmosses, selaginella, quillworts)

FLOWER COLOURS
No flowers

DETAILED DESCRIPTION
Terrestrial, lithophytic or epiphytic plants producing 1-many branches from near base. **Branches** tufted, erect suberect if terrestrial or pendulous if epiphytic, branched 1-many times, 0.08–2.0 m long. **Leaves** spirally arranged, spreading, angled at 60–90° to axis, linear-lanceolate, acute to subacute, 9–18 mm long, 1–3 mm wide, deep green to yellow-green, sometimes tinged orange; texture and thickness variable; margins entire, often thickened. Transition from sterile to sporogenous zone gradual or abrupt. **Sporogenous zone** 40–180 mm long, usually 3.5–4.5 mm diameter usually distinct from sterile leaves but sometimes scarcely discernible. **Sporophylls** variable; linear-lanceolate, spreading, shorter than sterile leaves, to 10 mm long, smaller towards apex; or ovate triangular, keeled, in 4-rows, imbricate, appressed, 2.0–2.5 mm long × 1.5–2.0 mm wide. **Sporangia** occupying one-tenth to the entire length of the sporophyll. (Description adapted from Chinnock (1998) and Brownsey & Smith-Dodsworth (2000)).

SIMILAR TAXA
Epiphytic forms are easily distinguished from all other New Zealand representatives of the family. However, sterile, terrestrial forms can only be reliably distinguished from *Huperzia australiana* by the lack of bulbils and by the upper branch tips which tend or curl downwards rather than stay erect.

DISTRIBUTION
Indigenous. New Zealand: Kermadec (Raoul Island only), Manawatāwhi / Three Kings Islands, North Island, South Island, Stewart Island/Rakiura, Chatham Islands, Antipodes Islands, Auckland Islands and Campbell Island/Motu Ihupuku. Also Australia.

HABITAT
Coastal to subalpine. In forest (usually as an epiphyte), in scrub, often rupestral or in peat bogs.

GENUS
Phlegmariurus

FAMILY
Lycopodiaceae

Mount Ruapehu. Photographer: Jeremy R. Rolfe, Date taken: 25/11/2013, Licence: CC BY.


Tararua Forest Park. Photographer: Jeremy R. Rolfe, Date taken: 24/06/2005, Licence: CC BY.

AUTHORITY
Phlegmariurus varius (R.Br.) A.R.Field et Bostock

SYNONYMS
Urostachys varius (R.Br.) Herter ex Nessel; Lycopodium varium R.Br.; Lycopodium billardieri Spring; Lycopodium novae-zelandicum Colenso; Lycopodium varium var. alpinum R.Br.; Lycopodium varium var. umbrosum R.Br.; Lycopodium varium R.Br.; Lycopodium flagellaria sensu A.Rich.; Lycopodium phlegmaria sensu A.Cunn., Lycopodium novozealandicum Colenso; Huperzia varia (R. Br.) Trevis.

TAXONOMIC NOTES
Field & Bostock (2013) have revived the genus *Phlegmariurus*, a genus which applies to one of the New Zealand plants previously referred to *Huperzia*, *H. varia*—which is now known as *Phlegmariurus varius*. As currently circumscribed the New Zealand concept of *Phlegmariurus varius* includes a range of distinctive races some of which have valid names in *Lycopodium*. Some of these races need further critical taxonomic investigation, especially as they retain their growth habits in cultivation, under uniform conditions.

ENDEMIC TAXON
No

ENDEMIC GENUS
No

ENDEMIC FAMILY
No

FLOWERING
N.A.

FRUITING
N.A.

LIFE CYCLE AND DISPERSAL
Minute spores are wind dispersed (Thorsen et al., 2009).

PROPAGATION TECHNIQUE
Can be grown from rooted pieces. These should be planted in a moist, free draining medium like orchid mix. Epiphytic forms make a spectacular hanging basket plant. Plants do best in partially shade and should never be allowed to dry out. Growth is usually rather slow.

WETLAND PLANT INDICATOR STATUS RATING
UPL: Obligate Upland
Rarely is a hydrophyte, almost always in uplands (non-wetlands).

NVS CODE
PHLVAR

CHROMOSOME NUMBER
2n = c.256

PREVIOUS CONSERVATION STATUSES
2017 | Not Threatened | Qualifiers: SO
2012 | Not Threatened
2009 | Not Threatened
2004 | Not Threatened
Jump to current conservation status

REGIONAL CONSERVATION STATUSES
Otago: 2025 | Regionally Not Threatened Help
The regional threat classification system leverages off the national assessments in the NZTCS, providing information relevant for the regional context. Otago conservation status information is sourced from the "Conservation Status of Indigenous Vascular Plants in Otago, 2025" Jarvie S et al. (2025) report.

REFERENCES AND FURTHER READING

Brownsey PJ, Smith-Dodsworth JC. 2000. New Zealand Ferns and Allied Plants. David Bateman, Auckland, NZ. 168 p.

Chinnock RJ. 1998. Lycopodiaceae. *Flora of Australia 48, Ferns Gymnosperms and allied groups*: 66–85. ABRS/CSIRO Victoria, Australia.

Field AR, Bostock PD. 2013. New and existing combinations in Palaeotropical *Phlegmariurus* (Lycopodiaceae) and lectotypification of the type species *Phlegmariurus phlegmaria* (L.) T.Sen & U.Sen. *PhytoKeys 20*: 33–51. https://doi.org/10.3897/phytokeys.20.4007.

Thorsen MJ, Dickinson KJM, Seddon PJ. 2009. Seed dispersal systems in the New Zealand flora. *Perspectives in Plant Ecology, Evolution and Systematics 11*: 285–309. https://doi.org/10.1016/j.ppees.2009.06.001.

ATTRIBUTION

Factsheet prepared by P.J. de Lange 16 March 2011. Description adapted from Chinnock (1998) and Brownsey & Smith-Dodsworth (2000).

MORE INFORMATION

https://www.nzpcn.org.nz/flora/species/phlegmariurus-varius/

PDF DATE

08 June 2026